IN THE CLAIMS:

1. (Currently Amended) A method for accessing a device, comprising:

creating a corresponding global unique identifier root bus object for each of a plurality of root buses in a system to which the device may be coupled, wherein each root bus is capable of having one or more devices coupled thereto, wherein each globally unique identifier root bus object includes an object-oriented abstraction that identifies a plurality of methods that may be used to determine a configuration of the corresponding root bus and to determine resource requirements of the corresponding root bus;

sending a resource access request to a device driver or OPROM corresponding to the device;

sending a resource access command corresponding to the resource access request from the device driver or OPROM to an abstraction layer interface;

verifying whether a resource operation corresponding to the resource access command is authorized to be performed on the device;

determining a resource access method(s) that may be implemented to cause the device to perform the resource operation, wherein the resource access method(s) is responsive to at least one created global unique identifier root bus object; and

calling the resource access method(s) to perform the resource operation on the device; ~~in a manner such that~~

wherein the abstraction layer interface hides the resource access method(s) from the device driver or OPROM.

2. (Original) The method of claim 1, wherein the resource access request comprises requesting data to be read from the device, further comprising returning data read from the device to the device driver or OPROM.

3. (Original) The method of claim 1, wherein the abstraction layer interface includes a database from which resource access methods corresponding to the device can be determined.

4. (Previously Amended) The method of claim 1, wherein the abstraction layer interface includes a database containing data corresponding to a configuration of a root bus to which the device is directly or indirectly connected and resource information corresponding to any devices in a hierarchy of the root bus.

5. (Previously Amended) The method of claim 4, wherein the data corresponding to the root bus configuration and resources is represented by an object-oriented abstraction comprising a set of components that

includes reference to one or more configuration methods that may be implemented to obtain and/or generate configuration and resource allocation information for the root bus and any devices and subordinate buses in the root bus hierarchy.

6. (Original) The method of claim 1, wherein the abstraction layer interface hides resource access methods for the device from the device driver or OPROM so that the device driver or OPROM may not directly access the device with those access methods.

7. (Currently Amended) A method for providing access to devices in a system that includes a plurality of root buses, comprising:

creating a corresponding global unique identifier root bus object for each of the plurality of root buses, wherein each root bus is capable of having one or more devices coupled thereto, wherein each globally unique identifier root bus object includes an object-oriented abstraction that identifies a plurality of methods that may be used to determine a configuration of the corresponding root bus and to determine resource requirements of the corresponding root bus;

storing configuration and resource information corresponding to each of said plurality of root buses and any devices and subordinate buses in a hierarchy for that root bus;

providing an abstraction layer interface that enables device drivers or OPROMs corresponding to the devices to perform resource operations on the devices through resource access methods corresponding to those devices, wherein the resource access methods is responsive to at least one created global unique identifier root bus object, said abstraction layer hiding such resource access methods from the device drivers or OPROMs so as to prevent the device drivers or OPROMs from directly implementing the resource access methods to perform resource operations on their corresponding devices;

passing identification information and one or more resource access commands from one or more of the device drivers or OPROMs to the abstraction layer interface;

verifying whether a resource operation to be performed on one of the devices, the one of the devices corresponding to said one or more resource access commands is authorized based on the identification information and the configuration and resource information that is stored; and

performing the resource operation on the device if it is authorized to be performed, the resource operation being performed on the device in a manner such that the abstraction layer interface hides the resource access method(s) from the device driver or OPROM.

8. (Previously Amended) The method of claim 7, wherein the configuration and resource information for each root bus is represented as an object-oriented abstraction comprising a set of components that includes reference to one or more configuration methods that may be implemented to obtain or generate configuration and resource information for the root bus and any devices and subordinate buses in the root bus hierarchy.

9. (Original) The method of claim 8, wherein the object-oriented abstractions for the root buses are stored in a database that is accessible by the abstraction layer interface.

10. (Original) The method of claim 9, further comprising providing a record for each device in the database identifying the device, a device driver or OPROM for the device, and the object-oriented abstraction corresponding to the root bus for the device.

11. (Original) The method of claim 7, further comprising publishing a public interface method that enables device drivers or OPROMs to access devices via the abstraction layer interface by passing identification, resource, and resource access command(s) to the abstraction interface.

12. (Currently Amended) An article of manufacture comprising a computer-readable medium having computer-executable instructions that when executed enable access to a device by:

creating a corresponding global unique identifier root bus object for each of a plurality of root buses in a system to which a device may be coupled, wherein each root bus is capable of having one or more devices coupled thereto, wherein each globally unique identifier root bus object includes an object-oriented abstraction that identifies a plurality of methods that may be used to determine a configuration of the corresponding root bus and to determine resource requirements of the corresponding root bus;

sending a resource access request to a device driver or OPROM corresponding to the device;

sending a resource access command corresponding to the resource access request from the driver to an abstraction layer interface;

verifying whether a resource operation corresponding to the resource access command is authorized to be performed on the device;

determining a resource access method(s) that may be implemented to cause the device to perform the resource operation, wherein the resource access method(s) is responsive to at least one created global unique identifier root bus object; and

calling the resource access method(s) to perform the resource operation on the device in a manner such that the abstraction layer interface hides the resource access method(s) from the device driver or OPROM.

13. (Original) The article of manufacture of claim 12, wherein the resource access request comprises requesting data to be read from the device, and wherein execution of the instructions further performs the function of returning data read from the device to the device driver or OPROM.

14. (Original) The article of manufacture of claim 12, wherein execution of the instructions further performs the function of creating a database containing data corresponding to a configuration of a root bus to which the device is directly or indirectly connected to and resource information corresponding to any devices in a hierarchy of the root bus.

15. (Previously Amended) The article of manufacture of claim 12, wherein the data corresponding to the root bus configuration and resources is represented by an object-oriented abstraction comprising a set of components that includes reference to one or more configuration methods that may be implemented to obtain and/or generate configuration

and resource allocation information for the root bus and any devices and subordinate buses in the root bus hierarchy.

16. (Original) The article of manufacture of claim 12, wherein the abstraction layer interface hides resource access methods for the device from the device driver or OPROM so that the device driver or OPROM may not directly access the device with those access methods.

17. (Currently Amended) An article of manufacture comprising a computer-readable medium having computer-executable instructions that when executed provide access to devices in a system that includes a plurality of root buses by:

creating a corresponding global unique identifier root bus object for each of a plurality of root buses in a system to which a device may be coupled, wherein each root bus is capable of having one or more devices coupled thereto, wherein each globally unique identifier root bus object includes an object-oriented abstraction that identifies a plurality of methods that may be used to determine a configuration of the corresponding root bus and to determine resource requirements of the corresponding root bus;

storing configuration and resource information corresponding to each of said plurality of root buses and any devices and subordinate buses in a hierarchy for that root bus;

providing an abstraction layer interface that enables device drivers or OPROMs for the devices to perform resource operations on the devices through resource access methods corresponding to those devices, said abstraction layer hiding such resource access methods from the device drivers or OPROMs so as to prevent the device drivers or OPROMs from directly implementing the resource access methods to perform resource operations on their corresponding devices, wherein the resource access

methods are responsive to at least one created global unique identifier root bus object;

passing identification information and one or more resource access commands from the device drivers or OPROMs to the abstraction layer interface;

verifying whether a resource operation(s) to be performed on a device corresponding to said one or more resource access commands is authorized based on the identification information and the configuration and resource information that is stored; and

performing the resource operation on the device if it is authorized to be performed, the resource operation being performed in a manner such that the abstraction layer interface hides the resource access method(s) from the device driver or OPROM.

18. (Previously Amended) The article of manufacture of claim 17, wherein the configuration and resource information for each root bus is represented as an object-oriented abstraction comprising a set of components that includes reference to one or more configuration methods that may be implemented to obtain and/or generate configuration and resource information for the root bus and any devices and subordinate buses in the root bus hierarchy.

19. (Original) The article of manufacture of claim 18, wherein the object-oriented abstractions for the root buses are stored in a database that is accessible by the abstraction layer interface, and execution of the instructions further performs the function of providing a record for each device in the database identifying the device, a device driver or OPROM for the device, and the object-oriented abstraction corresponding to the root bus for the device.

20. (Currently Amended) A computer system comprising:

a memory in which a plurality of instructions are stored;

a device;

a root bus to which the device is operatively coupled; and

a processor connected to the root bus and the memory, said plurality of instructions when executed by the processor causing functions to be performed including:

creating a global unique identifier root bus object for the root bus, wherein the globally unique identifier root bus object includes an object-oriented abstraction that identifies a plurality of methods that may be used to determine a configuration of the root bus and to determine resource requirements of the root bus;

sending a resource access request to a device driver or OPROM corresponding to the device;

sending a resource access command corresponding to the resource access request from the device driver or OPROM to an abstraction layer interface;

verifying whether a resource operation corresponding to the resource access command is authorized to be performed on the device;

determining a resource access method(s) that may be implemented to cause the device to perform the resource operation, wherein the

resource access method(s) is responsive to at least one created global unique identifier root bus object; and

calling the resource access method(s) to perform the resource operation on the device in a manner such that the abstraction layer interface hides the resource access method(s) from the device driver or OPROM.

21. (Original) The system of claim 20, wherein the resource access request comprises requesting data to be read from the device, and wherein execution of the instructions further performs the function of returning data read from the device to the device driver or OPROM.

22. (Original) The system of claim 20, wherein execution of the instructions further performs the function of creating a database containing data corresponding to a configuration of a root bus to which the device is directly or indirectly connected to and resource information corresponding to any devices in a hierarchy of the root bus.

23. (Previously Amended) The system of claim 20, wherein the data corresponding to the root bus configuration and resources is represented by an object-oriented abstraction comprising a set of components that includes reference to one or more configuration methods that may be implemented to obtain and/or generate configuration and

resource allocation information for the root bus and any devices and subordinate buses in the root bus hierarchy.

24. (Original) The system of claim 20, wherein the abstraction layer interface hides resource access methods for the device from the device driver or OPROM so that the device driver or OPROM may not directly access the device with those access methods.

25. (Currently Amended) A computer system comprising:

a memory in which a plurality of instructions are stored;

a plurality of root buses;

a plurality of devices connected to the root buses; and

a processor connected to the root buses and the memory, said plurality of instructions when executed by the processor causing functions to be performed including:

creating a corresponding global unique identifier root bus object for each of the plurality of root buses, wherein each globally unique identifier root bus object includes an object-oriented abstraction that identifies a plurality of methods that may be used to determine a configuration of the corresponding root bus and to determine resource requirements of the corresponding root bus;

storing configuration and resource information corresponding to each of said plurality of root buses and any devices and subordinate buses in a hierarchy for that root bus;

providing an abstraction layer interface that enables device drivers or OPROMs for the devices to perform resource operations on the devices through resource access methods corresponding to those devices, said abstraction layer hiding such resource access methods from the device drivers or OPROMs so as to prevent the device drivers or OPROMs from directly implementing the resource access methods to perform resource operations on their corresponding devices, wherein the resource access methods are responsive to at least one created global unique identifier root bus object;

passing identification information and resource access command(s) from device drivers or OPROMs to the abstraction layer interface;

verifying whether a resource operation to be performed on a device corresponding to the resource access command(s) is authorized based on the identification information and the configuration and resource information that is stored; and

performing the resource operation on the device if it is authorized to be performed, the resource operation being performed in a manner such that the abstraction layer interface hides the resource access method(s) from the device driver or OPROM.

26. (Previously Amended) The system of claim 25, wherein the configuration and resource information for each root bus is represented as an object-oriented abstraction comprising a set of components that includes reference to one or more configuration methods that may be implemented to obtain and/or generate configuration and resource information for the root bus and any devices and subordinate buses in the root bus hierarchy.

27. (Original) The system of claim 26, wherein the object-oriented abstractions for the root buses are stored in a database that is accessible by the abstraction interface layer, and execution of the instructions further performs the function of providing a record for each device in the database identifying the device, a

device driver or OPROM for the device, and the object-oriented abstraction corresponding to the root bus for the device.